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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,770	07/17/2006	Roger Scattergood	M0106.70021US00	1614

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BOSTON, MA 02210-2206

EXAMINER

HINES, LATOSHA D

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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08/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,770	Applicant(s) SCATTERGOOD, ROGER	
	Examiner LATOSHA HINES	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27, 29-41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 29-41 and 43-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This is the final Office action based on the 11/677896 application filed on February 22, 2007.

2. Claims 1-27, 29-41, and 43-46 are pending and have been fully considered. Claims 28 and 42 have been canceled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-27, 29-41 and 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAKEFIELD (WO 03/040270 A2).

Wakefield discloses a fuel or fuel additives comprising particles of cerium oxide which have been doped with divalent or trivalent metal or metalloid which is a rare earth metal, a transition metal or a metal of group IIA, IIIB, VB, or VIB of the Periodic Table, meeting the limitation of claims 2-3 and 32. The cerium oxide must be of a

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nanocrystalline nature, for example they should be less than 1 micron in size and preferably 1-300 nm in size, on page 1 lines 22-28 of Wakefield, meeting the limitation of claims 6-7. The metal or metalloid on page 2 lines 16-29 of Wakefield, in particular are Rh, Cu, Ag, Au, Pd, Pt, Sb, Se, Fe, Ga, Mg, Mn, Cr, Be, B, Co, V and Ca as well as Pr, Sm and Gd, meeting the limitation of claims 4-5.

Wakefield discloses on page 5 lines 10-20, the coating agent is suitably an organic acid, anhydride or ester or a Lewis base. The coating agent is preferably an organic carboxylic acid or an anhydride, typically one possessing at least 8 carbons. A preferred anhydride is dodecylsuccinic anhydride, meeting the limitation of claims 8-11.

Wakefield discloses in claim 13 the fuel is diesel, meeting the limitations of claim 12.

Wakefield discloses on page 9 lines 5-7, non polar organic solvent such as aromatic and aliphatic hydrocarbon, meeting the limitation of claim 13 and 41.

Wakefield discloses on page 10 lines 13-14, the additives are added directly at the refinery. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the various refinery techniques of applicant's in the process of producing and making fuel for internal combustion engines, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416, meeting the limitation of claims 14-16.

Wakefield discloses on page 9 lines 10-30, the cerium oxide is added together with one or more of a detergents, dehazers, anti-foaming agents, ignition improvers, anti-

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rust agents, re-odorants, anti-oxidants, metal deactivators, or lubricity agents, meeting limitation of claims 17-18, 25, 39-40.

Wakefield discloses on page 9 lines 10-11, the detergents are hydrocarbyl-substituted amines and amides for example a polyisobutenyl succinimide, meeting the limitations of claims 19-24, 29, 33-37, and 43-46.

Wakefield discloses on page 8 lines 1-9, cerium oxide particles obtained in the concentration of about 4 ppm, meeting the limitations of claims 26-27 and 30-31.

The examiner is of the position a reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545,549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). In addition, "A reference can be used for all its realistically teachings and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

Response to Arguments

2. Applicant's arguments filed May 25, 2010 have been fully considered but they are not persuasive.

a. Applicant argued Wakefield does not disclose or suggest both cerium oxide and a detergent to a fuel. The examiner disagrees. Wakefield discloses the present invention due to applicant's open-ended claim language "comprising", which allows for the addition of a mixture of additives to the composition such as those set forth in the prior

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art. The present invention does not disclose a reaction process between the cerium oxide and the detergent; therefore it is obvious the combination of cerium oxide, detergents, and other additives would improve a fuel for an internal combustion engine, as taught by Wakefield.

b. From the teachings of the reference, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to LATOSHA HINES whose telephone number is 571-270-5551.

The examiner can normally be reached on Monday thru Thursday from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on 571-272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LATOSHA HINES/
Examiner, Art Unit 1797

/Ellen M McAvoy/
Primary Examiner, Art Unit 1797